UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
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ART UNIT	PAPER NUMBER
2181	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/582,808	SCHAETZLE, RALF
	Examiner	Art Unit	
	Chun-Kuan Lee	2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 June 2006*.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-19* is/are rejected.
7)☒ Claim(s) *15-16* is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *14 June 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.
   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a)☐ All   b)☐ Some *   c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)
1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date *See Continuation Sheet*.
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :02/26/2007, 04/23/2007 & 04/30/2007.

DETAILED ACTION

I. ACKNOWLEDGEMENT OF REFERENCES CITED BY APPLICANT

1.   As required by **M.P.E.P. 609(C)**, the applicant's submissions of the

Information Disclosure Statement dated February 26, 2007; April 23, 2007 and

April 30, 2007 are acknowledged by the examiner and the cited references have

been considered in the examination of the claims now pending. As required by

M.P.E.P 609 C(2), a copy of the PTOL-1449 initialed and dated by the examiner

is attached to the instant office action.

II. OBJECTION TO THE CLAIMS

2.   Claims 15-16 are objected to because of the following informalities:

In claim 15, line 4, "inuque" should be replaced with-unique-.

In claim 16, line 2, "th" should be replaced with-the-.

Appropriate correction is required.

III. REJECTIONS BASED ON 35 U.S.C. 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly
claiming the subject matter which the applicant regards as his invention.

3.   Claims 1-2, 9, 11, 13 and 16-18 and are rejected under 35 U.S.C. 112,

second paragraph, as being indefinite for failing to particularly point out and

distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the master device" in lines 2, 7 and 10 of claim 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the corresponding addresses" in line 14 of claim 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 2 recites the limitation "the master device" in lines 3, 8 and 14-15 of claim 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 2 recites the limitation "the addresses" in line 18 of claim 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 9 recites the limitation "the particular slave device" in line 2 of claim 9. There is insufficient antecedent basis for this limitation in the claim.

Claim 11 recites the limitation "the master device" in lines 4 and 8 of claim 11. There is insufficient antecedent basis for this limitation in the claim.

Claim 11 recites the limitation "the HART command" in line 6 of claim 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 13 recites the limitation "the switching off process" in lines 2-3 of claim 13. There is insufficient antecedent basis for this limitation in the claim.

Claim 16 recites the limitation "the identifier" in line 2 of claim 16. There is insufficient antecedent basis for this limitation in the claim.

Claim 17 recites the limitation "the slave device" in line 2 of claim 17. There is insufficient antecedent basis for this limitation in the claim.

Claim 18 recites the limitation "the characterizing identifier" in lines 1-2 of claim 18. There is insufficient antecedent basis for this limitation in the claim.

As per claims 1-2 and 11, it is not fully clear to the examiner if the "master device" is the same/different master device from the "at least one master device" previously recited; the examiner will assume the claimed limitation of "... the at least one master device ..." for the current examination.

As per claim 1, in line 14, it is not fully clear to the examiner as to which "corresponding addresses" the applicant is referring to, the examiner will assume the claimed limitation of "... changing the identical addresses for the slave devices to a unique address for each slave device ..." for the current examination.

As per claim 2, in line 18, it is not fully clear to the examiner as to which "addresses" the applicant is referring to, the examiner will assume the claimed limitation of "... changing the identical addresses for the slave devices to a unique address for each slave device ..." for the current examination.

As per claim 9, in line 2, it is not fully clear to the examiner as to which "particular slave device" the applicant is referring to, the examiner will assume the claimed limitation of "... a particular slave device ..." for the current examination.

As per claim 11, in line 6, it is not fully clear to the examiner as to which "HART command" the applicant is referring to, the examiner will assume the claimed limitation of "... transmitting a HART command ..." for the current examination.

As per claim 13, in lines 2-3, it is not fully clear to the examiner as to which "switching off process" the applicant is referring to, the examiner will assume the claimed limitation of "… wherein the power source is switched off before switching on the power source by the control unit …" (added to the end of independent claim 11) for the current examination.

As per claim 16, in line 2, it is not fully clear to the examiner as to which "identifier" the applicant is referring to, the examiner will assume the claimed limitation of "… transmitted with an identifier …" for the current examination.

As per claim 17 in line 2, it is not fully clear to the examiner as to which "slave device" the applicant is referring to, the examiner will assume the claimed limitation of "… characterizing a particular slave device …" for the current examination.

As per claim 17 in line 2, it is not fully clear to the examiner if the "unique address" is the same/different unique address previously recite, the examiner will assume the claimed limitation of "… enter together with the unique address ..." for the current examination.

As per claim 18 in lines 1-2, it is not fully clear to the examiner which "characterizing identifier" the applicant is referring to, the examiner will assume the claimed limitation of "… wherein an identifier is a corresponding serial number..." for the current examination.

IV REJECTIONS BASED ON PRIOR ART

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described
> as set forth in section 102 of this title, if the differences between the subject matter sought to
> be patented and the prior art are such that the subject matter as a whole would have been
> obvious at the time the invention was made to a person having ordinary skill in the art to which
> said subject matter pertains. Patentability shall not be negatived by the manner in which the
> invention was made.

4.   Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over

"HART, Field Communication Protocol, Application Guide" in view of Brooke (US

Patent 5,909,591).

HART, Field Communication Protocol, Application Guide teaches a

method of configuring a HART multidrop system, the system including at least

one master device and a plurality of slave devices coupled to the at least one

master device (Fig. 8, on p. 22 and Fig. 9, on p. 23), the method comprising the

steps of:

connecting the slave devices (Fig. 8, on p. 22 and Fig. 9, on p. 23);

switching on a power source of the at least one master device for the

slave devices (Fig. 8, on p. 22; Fig. 9, on p. 23 and HART Multidrop Networks on

pp. 22-23), as the power source must be switch on in order for the system to

operate;

a HART command "Write polling address" (Universal Commands of Table

1 on p. 7);

setting a polling address not equal to zero (HART Multidrop Networks on

pp. 22-23); and

the HART command being preprogrammed to cause the slave devices

automatically switch to a multidrop mode (HART Multidrop Networks on pp. 22-

23), as the standard HART command transferred in the multidrop system would

initiates the operation in the multidrop mode.

HART, Field Communication Protocol, Application Guide does not

expressly teach the method comprising: transmitting the HART command ... ,

obtain an identical address not equal to zero; and changing the identical

addresses for the slave devices to a unique address for each slave device.

Brooke teaches an automatic system and method comprising:

transmitting a request to each one of the modules (e.g. broadcasting the

HART command to the slaves) from the at least one controller (Fig. 1, ref. 150)

(e.g. master device) (col. 2, ll. 19-53),

obtain (e.g. obtaining via selection) an identical address not equal to zero

(e.g. polling number not equal zero) (col. 2, ll. 19-53); and

changing (e.g. changing via assigning) the identical addresses (e.g.

polling numbers) for the modules (e.g. slave devices) to a unique address for

each module (e.g. slave device) (col. 2, ll. 19-53).

It would have been obvious for one of ordinary skill in this art, at the time

of invention was made to include Brooke's assigning of unique addresses into

HART, Field Communication Protocol, Application Guide's multidrop network for

the benefit of address detection and assignment without prior configuration

(Brooke, col. 2, ll. 4-16) to obtain the invention as specified in claim 1.

5.   Claims 2-19 are rejected under 35 U.S.C. 103(a) as being unpatentable

over "HART, Field Communication Protocol, Application Guide" in view of "About

HART: Part 1" and Brooke (US Patent 5,909,591).

6.   As per claim 2, HART, Field Communication Protocol, Application Guide

teaches a method of configuring an existing HART multidrop system, the system

including (i) at least one a master device, (ii) a plurality of slave devices

connected to the at least one master device, and (iii) at least one further slave

device (e.g. replacement device) (Fig. 8, on p. 22; Fig. 9, on p. 23 and

Improvement Plant Operations on p. 12), the method comprising the steps of:

        connecting the at least one further slave device (Fig. 8, on p. 22; Fig. 9, on

p. 23 and Improvement Plant Operations on p. 12), as the replacement device is

connected,

        switching on a power source for the slave devices (Fig. 8, on p. 22; Fig. 9,

on p. 23 and HART Multidrop Networks on pp. 22-23), as the power source must

be switch on in order for the system to operate;

        a HART command "Write polling address" (Universal Commands of Table

1 on p. 7);

        setting a polling address not equal to zero (HART Multidrop Networks on

pp. 22-23); and

        the HART command being preprogrammed to cause the slave devices

automatically switch to a multidrop mode (HART Multidrop Networks on pp. 22-

23), as the standard HART command transferred in the multidrop system would

initiates the operation in the multidrop mode.

HART, Field Communication Protocol, Application Guide does not

expressly teach the method comprising: switching off a power source … ;

transmitting the HART command … , obtain an identical address not equal to

zero; and changing the identical addresses for the slave devices to a unique

address for each slave device.

About HART: Part 1 teaches a system and a method of adding slave

device (e.g. Field Instrument) comprising resetting of the system as the devices

are resetted (page 10), wherein the resetting would include the switching off of

the power source following by the switching on of the power source.

It would have been obvious for one of ordinary skill in this art, at the time

of invention was made to include About HART: Part 1's resetting into HART,

Field Communication Protocol, Application Guide's multidrop system for the

benefit of properly operating the system in accordance to the HART

communication protocol to enable proper communication and operation of the

devices within the HART system as to obtain the invention as specified in claim

2.

HART, Field Communication Protocol, Application Guide and About

HART: Part 1 do not expressly teach the method comprising: transmitting the

HART command … , obtain an identical address not equal to zero; and changing

the identical addresses for the slave devices to a unique address for each slave

device.

Brooke teaches an automatic system and method comprising:

transmitting a request to each one of the modules (e.g. broadcasting the

HART command to the slaves) from the at least one controller (Fig. 1, ref. 150)

(e.g. master device) (col. 2, ll. 19-53),

obtain (e.g. obtaining via selection) an identical address not equal to zero

(e.g. polling number not equal zero) (col. 2, ll. 19-53); and

changing (e.g. changing via assigning) the identical addresses (e.g.

polling numbers) for the modules (e.g. slave devices) to a unique address for

each module (e.g. slave device) (col. 2, ll. 19-53).

It would have been obvious for one of ordinary skill in this art, at the time

of invention was made to include Brooke's assigning of unique addresses into

HART, Field Communication Protocol, Application Guide's multidrop network for

the benefit of address detection and assignment without prior configuration

(Brooke, col. 2, ll. 4-16) to obtain the invention as specified in claim 2.

7.   As per claim 11, HART, Field Communication Protocol, Application Guide

teaches a HART multidrop system, comprising:

a plurality of slave devices (Fig. 8, on p. 22; Fig. 9, on p. 23 and HART

Multidrop Networks on pp. 22-23); and

at least one master device having a power source for the slave devices,

the slave devices being coupled to the at least one master device (Fig. 8, on p.

22; Fig. 9, on p. 23 and HART Multidrop Networks on pp. 22-23);

a control unit switching on the power source (Fig. 8, on p. 22; Fig. 9, on p.

23 and HART Multidrop Networks on pp. 22-23), as the power source must be

switch on in order for the system to operate;

a HART command "Write polling address" (Universal Commands of Table

1 on p. 7);

setting a polling address not equal to zero (HART Multidrop Networks on

pp. 22-23); and

the HART command causing each of the slave devices connected to the

at least one master device to be automatically switched to a multidrop mode

(HART Multidrop Networks on pp. 22-23), as the standard HART command

transferred in the multidrop system would initiates the operation in the multidrop

mode.

HART, Field Communication Protocol, Application Guide does not

expressly teach the method comprising: automatic configuration of the HART

multidrop system; transmitting the HART command … , receive an identical

address not equal to zero; the identical addresses for the slave devices capable

of being changed to individual addresses for each slave device; and wherein the

power source is switched off before switching on the power source.

About HART: Part 1 teaches a system and a method of adding slave device (e.g. Field Instrument) comprising resetting of the system as the devices are resetted (page 10), wherein the resetting would include power source is switched off before switching on the power source.

It would have been obvious for one of ordinary skill in this art, at the time of invention was made to include About HART: Part 1's resetting into HART, Field Communication Protocol, Application Guide's multidrop system for the benefit of properly operating the system in accordance to the HART communication protocol to enable proper communication and operation of the devices within the HART system as to obtain the invention as specified in claim 11.

HART, Field Communication Protocol, Application Guide and About HART: Part 1 do not expressly teach the method comprising: automatic configuration of the HART multidrop system; transmitting the HART command … , receive an identical address not equal to zero; and the identical addresses for the slave devices capable of being changed to individual addresses for each slave device.

Brooke teaches an automatic system and method comprising:

automatic configuration of the system (e.g. HART multidrop system) (col. 2, ll. 12-16)

transmitting a request to each one of the modules (e.g. broadcasting the

HART command to the slaves) from the at least one controller (Fig. 1, ref. 150)

(e.g. master device) (col. 2, ll. 19-53),

receiving (e.g. receiving via selection) an identical address not equal to

zero (e.g. polling number not equal zero) (col. 2, ll. 19-53); and

the identical addresses for the slave devices capable of being changed to

individual addresses for each slave device (col. 2, ll. 19-53), as the modules'

polling numbers are changed to a unique address.

It would have been obvious for one of ordinary skill in this art, at the time

of invention was made to include Brooke's assigning of unique addresses into

HART, Field Communication Protocol, Application Guide's multidrop network for

the benefit of address detection and assignment without prior configuration

(Brooke, col. 2, ll. 4-16) to obtain the invention as specified in claim 11.

8.   As per claims 3 and 12, HART, Field Communication Protocol, Application

Guide, About HART: Part 1 and Brooke teach all the limitations of claims 2 and

11 as discussed above, where About HART: Part 1 further teaches the method

and the system comprising before the switching off step (before the power supply

is switched on), the control unit (e.g. HART controller) check if one of a supply

voltage or a supply current for the slave devices is about zero (About HART: Part

1, Fig. 1.2 on p. 3), as the HART controller could have been utilized to sense the

current level for properly implementing the resetting (e.g. On-Off-On).

9.   As per claims 4 and 13, HART, Field Communication Protocol, Application Guide, About HART: Part 1 and Brooke teach all the limitations of claims 2 and 11 as discussed above, where About HART: Part 1 further teaches the method and the system comprising wherein switching on step is performed by the control unit after a predetermined time interval after the switching off step to ensure that one of a voltage and a current is not applied to the slave devices before the power source for the slave devices is switched on (About HART: Part 1, page 10), it would have been obvious to switch off for predetermined time interval to ensure that all the voltage or current in the system is sufficiently discharged for implementing the reset.

10.   As per claim 5, HART, Field Communication Protocol, Application Guide, About HART: Part 1 and Brooke teach all the limitations of claim 2 as discussed above, where About HART: Part 1 further teaches the method comprising wherein, in the HART command, the pulling address has a value between 1 and 15 (e.g. 4 bit address) (About HART: Part 1, Overview: Addressing on pp. 13-14).

11.   As per claims 6 and 14, HART, Field Communication Protocol, Application Guide, About HART: Part 1 and Brooke teach all the limitations of claims 2 and 11 as discussed above, where About HART: Part 1 and Brooke further teach the method and the system comprising wherein one of the transmitting step and the changing step, the unique address between 1 and 15 (e.g. 4 bit address) is entered for each slave device by an operator in an inquiry routine run by the

control unit (About HART: Part 1, Overview: Addressing on pp. 13-14 and

Brooke, col. 2, ll. 1-3).

12.   As per claims 7 and 15, HART, Field Communication Protocol, Application

Guide, About HART: Part 1 and Brooke teach all the limitations of claims 6 and

14 as discussed above, where Brooke further teaches the method and the

system comprising wherein before entering of the unique address for a particular

slave device, the control unit run a checking routine to determine if the particular

slave device has already been configured and, if the particular slave device has

been configured, the same address is again assigned to the particular slave

device (Brooke, col. 2, ll. 19-53), wherein the above detection would have been

implemented via the monitoring of the particular slave device for a faster

configuration process.

13.   As per claims 8 and 16, HART, Field Communication Protocol, Application

Guide, About HART: Part 1 and Brooke teach all the limitations of claims 7 and

15 as discussed above, where About HART: Part 1 and Brooke further teach the

method and the system comprising wherein the checking routine involves the

HART command being transmitted with an identifier for the particular slave

device and a previously assigned address (About HART: Part 1, Overview:

Addressing on pp. 13-14 and Brooke, col. 2, ll. 19-53), as the HART command

would have been transferred with the existing addressing information including

the identifier and the previous assigned address.

14.   As per claims 9 and 17, <u>HART, Field Communication Protocol, Application Guide</u>, <u>About HART: Part 1</u> and <u>Brooke</u> teach all the limitations of claims 6 and 14 as discussed above, where <u>About HART: Part 1</u> further teaches the method and the system comprising wherein, in addition to entering the unique address for a particular slave device, an identifier corresponding to the particular slave device (e.g. serial number) is entered (<u>About HART: Part 1</u>, Overview: Addressing on pp. 13-14).

15.   As per claims 10 and 18, <u>HART, Field Communication Protocol, Application Guide</u>, <u>About HART: Part 1</u> and <u>Brooke</u> teach all the limitations of claims 9 and 17 as discussed above, where <u>About HART: Part 1</u> further teaches the method and the system comprising wherein the identifier is a serial number of the particular slave device (<u>About HART: Part 1</u>, Overview: Addressing on pp. 13-14).

16.   As per claim 19, <u>HART, Field Communication Protocol, Application Guide</u>, <u>About HART: Part 1</u> and <u>Brooke</u> teach all the limitations of claim 11 as discussed above, where <u>About HART: Part 1</u> further teaches the system comprising wherein, before switching on the power source, the power source is switched off (<u>About HART: Part 1</u>, page 10), as the resetting would include power source is switched off before switching on the power source.

V. CLOSING COMMENTS

Conclusion

a. STATUS OF CLAIMS IN THE APPLICATION

The following is a summary of the treatment and status of all claims in the application as recommended by **M.P.E.P. 707.07(i)**:

a(1) CLAIMS REJECTED IN THE APPLICATION

Per the instant office action, claims 1-19 have received a first action on the merits and are subject of a first action non-final.

b. DIRECTION OF FUTURE CORRESPONDENCES

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun-Kuan (Mike) Lee whose telephone number is (571) 272-0671. The examiner can normally be reached on 8AM to 5PM.

IMPORTANT NOTE

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alford Kindred can be reached on (571) 272-4037. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from
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Representative or access to the automated information system, call 800-786-
9199 (IN USA OR CANADA) or 571-272-1000.

February 27, 2008   Chun-Kuan (Mike) Lee
                                                         Examiner
                                                         Art Unit 2181

/Alford W. Kindred/

Supervisory Patent Examiner, Art Unit 2163